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EXAMINER
LEE, CHUN KUAN

ART UNIT	PAPER NUMBER
2181	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
	10/759,325	PAFF ET AL.
Office Action Summary	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 October 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-32</u> is/are pending in the application.

    4a) Of the above claim(s) <u>4-9,15,21,22 and 24-29</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3,10-14,16-20,23 and 30-32</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>16 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

RESPONSE TO ARGUMENTS

1.   Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection. Rejection of claims 17-20 and 23 under 35 U.S.C. 101 are withdrawn. Currently, claims 4-9, 15, 21-22 and 24-29 are withdrawn and claims 1-3, 10-14, 16-20, 23 and 30-32 are pending for examination.

I. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-3, 10-14, 16-20 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Kumar et al. (US Patent 7,065,597) and Koike (US Patent 7,081,806).

3.   As per claims 1 and 10, AAPA teaches a system and a method comprising:

a first component (Specification, [0003]);

a second component communicatively connected to said first component through

a bus, said bus being accessible to components other than said first component and

said second component (Specification, [0003]); and

transferring of a data including a public/private key and encrypted information

between the first component and the second component via the bus (Specification,

[0003]-[0004]), therefore a first communication channel that include the bus would need

to be established in order to communicate (i.e. transfer) the data.

AAPA does not teach the system and the method comprising:

establishing a second communication channel that communicatively connects

said first component with said second component using light-based communication ...;

and

said light-based second communication channel enabling the transmission of the

datum in at least one direction ... .

Kumar teaches a system and a method comprising:

establishing a first communication link (bus 110 of Fig. 1) and a second

communication link (side-band 114 of Fig. 1) between a processor (Fig. 1,ref. 102) and

a bridge (Fig. 1, ref. 114) (col. 1, ll. 26-48), wherein the transferring of data between the

processor and the bridge utilizing the second communication would not be exposed the

data to the first communication link.

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kumar's second communication link into AAPA's system

and method for the benefit of implementing hot plugging function within the computer

system (Kumar, col. 1, ll. 24-25) to obtain the invention as specified in claims 1 and 10.

The resulting combination of the references further teaches the system and the method

comprising:

establishing the side-band (e.g. second communication channel) that connects

the first component with the second component, wherein the said-band would obviously

not be utilized for the transferring of encrypted information, because the encrypted

information can only be properly received by the component with the corresponding

public/private key, therefore it would be obvious that the encrypted information are

transferred via the bus;

wherein the side-band enable would obvious be utilized for the transferring of the

public/private key, therefore ensuring that only the destined component will be able

receive the public/private key for decryption of the received encrypted information; and

the side-band enable the transferring of datum (e.g. public/private key) between

the first component and the second component without exposing the datum to the bus.

AAPA and Kumar do not teach the system and the method comprising utilizing

light-based communication, in order to ensure a defined positional relationship between

the first and second components; and transmitting the datum utilizing said light-based

communication.

Koike teaches a system and a method comprising utilizing a light-based

communication (e.g. infrared), in order to ensure a defined positional relationship (e.g.

close range proximity) between a first component (e.g. PC) and a second component

(e.g. keyboard); and transmitting a datum (e.g. key information) utilizing said light-based

communication (col. 1, l. 42; col. 1, l. 65 to col. 2, l. 16 and col. 6, ll. 17-37).

It would have been obvious for one of ordinary skill in this art, at the time of

invention was made to include Koike's infrared communication into AAPA and Kumar's

system and method for the benefit of providing sufficient security for protecting the key

information from being intercepted when transferring (Koike, col. 1, ll. 62-64) to obtain

the invention as specified in claims 1 and 10.

4.   As per claims 2 and 13, AAPA, Kumar and Koike teach all the limitations of

claims 1 and 10 as discussed above, where AAPA and Kumar further teach the system

and the method comprising wherein the second component is associated with an

identifier of the second component, and said datum comprises said identifier, said

datum being transmitted from said second component to said first component over said

second communication channel (AAPA, Specification, [0004] and Kumar, Fig. 1, ref.

114).

5.   As per claims 3 and 14, AAPA, Kumar and Koike teach all the limitations of

claims 1 and 10 as discussed above, where AAPA further teaches the system and the

method comprising wherein said identifier comprises a cryptographic key (e.g.

public/private key) associated with the second component, wherein said cryptographic

key being used to encrypt data that said first component sends to said second

component (AAPA, Specification, [0004]).

6.   As per claim 11, AAPA, Kumar and Koike teach all the limitations of claim 10 as

discussed above, where Kumar further teaches the method comprising wherein said

second communication channel enables transmission of said datum between said first

component and said second component only when said first component is within a level

of physical proximity (e.g. located within the same case) to said second component

(Kumar, col. 1, ll. 49-54).

7.   As per claim 12, AAPA, Kumar and Koike teach all the limitations of claim 11 as

discussed above, where Kumar further teaches the method comprising wherein the first

component is a computer having an outer case, and wherein the second communication

channel enables transmission of said datum between said first component and said

second component only when said second component is at least as close to said first

component as being located inside of said outer case (Kumar, col. 1, ll. 49-54).

8.   As per claim 16, AAPA, Kumar and Koike teach all the limitations of claim 10 as

discussed above, where AAPA, Kumar and Koike further teaches the system

comprising wherein said first component and said second component engage in

communication according to a protocol over said second light-based communication

channel to establish the respective identities (e.g. utilizing the public/private key) and

current presence of said first component and said second component and to establish

that said first component and said second component are within a level of proximity to

each other (e.g. located within the same case) (AAPA, Specification, [0004]; Kumar, col.

1, ll. 49-54 and Koike, col. 6, ll. 17-37), wherein it would have been obvious that the

side-band (e.g. second communication channel) is conformed to the protocol in order to

enable to the functionality of hot plugging or secure communication utilizing

public/private key.

9.   As per claim 17, AAPA teaches a computer-readable storage medium encoded

with computer-executable instructions to perform a method, the first component and the

second component being communicatively connected to each other by a bus that is

accessible to sources remote from the first component and the second component

(Specification, [0003]), the method comprising:

   sending a first datum (e.g. public/private key) from the first component to the

second component (Specification, [0004]); and

   receiving a second datum (e.g. encrypted information) at the first component

from the second component, the second datum being communicated from the second

component to the first component through the bus (Specification, [0004]).

   AAPA does not teach the computer-readable storage medium comprising

      wherein the transferring of the second datum is accomplished via a light-based

secondary communication channel and without use of the bus; and

determining that the second component satisfies the first position relationship

based on receipt of the second datum.

Kumar teaches a system and a method comprising:

establishing a first communication link (bus 110 of Fig. 1) and a secondary

communication link (side-band 114 of Fig. 1) between a processor (Fig. 1,ref. 102) and

a bridge (Fig. 1, ref. 114) (col. 1, II. 26-48), wherein the transferring of data between the

processor and the bridge utilizing the second communication would not be exposed the

data to the first communication link; and

wherein the processor and the bridge are located within the same case and are

connected by a wire (col. 1, II. 49-54).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kumar's second communication link into AAPA's system

and method for the benefit of implementing hot plugging function within the computer

system (col. 1, II. 24-25) to obtain the invention as specified in claim 17. The resulting

combination of the references further teaches the computer-readable medium with the

method of verifying that the first component is within the first positional relationship to

the second component comprising:

wherein the second datum is transferring via the side-band (e.g. secondary

communication channel), without exposing the second datum to the bus; and

as both the bridge (e.g. second component) and the processor (e.g. first

component) are located within the same case and connected by a wire, when the

second datum (e.g. encrypted information) is successfully received from the bridge, it

would have been obvious that the bridge satisfying the first position relationship based on receipt of the second datum is determined.

AAPA and Kumar do not teach the computer-readable medium comprising a light-based communication channel.

Koike teaches a system and a method comprising a light-based communication channel (e.g. infrared) (col. 1, l. 42; col. 1, l. 65 to col. 2, l. 16 and col. 6, ll. 17-37).

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Koike's infrared communication into AAPA and Kumar's system and method for the benefit of providing sufficient security for protecting the key information from being intercepted when transferring (Koike, col. 1, ll. 62-64) to obtain the invention as specified in claim 17.

10.   As per claim 18, AAPA, Kumar and Koike teach all the limitations of claim 17 as discussed above, where AAPA further teaches the computer-readable storage medium comprising wherein said first datum comprises a cryptographic key (e.g. public/private key) associated with the first component (AAPA, Specification, [0003]).

11.   As per claim 19, AAPA, Kumar and Koike teach all the limitations of claim 17 as discussed above, where Kumar further teaches the computer-readable storage medium comprising wherein the first positional relationship comprises the first component and

the second component being within a level of proximity to each other (e.g. located within

the same case) (Kumar, col. 1, II. 49-54).

12.   As per claim 20, AAPA, Kumar and Koike teach all the limitations of claim 17 as

discussed above, where Kumar further teaches the computer-readable storage medium

comprising wherein the first component comprises a computing device (Kumar, Fig. 1,

ref. 100) enclosed by a case, and wherein the first positional relationship comprises said

second component being located within said case (Kumar, col. 1, II. 49-54).

13.   As per claim 30, AAPA, Kumar and Koike teach all the limitations of claim 1 as

discussed above, where Koike further teaches the method comprising wherein the light-

based communication connection comprises an infrared communication connection

(Koike, col. 6, II. 17-37).

14.   As per claim 31, AAPA, Kumar and Koike teach all the limitations of claim 10 as

discussed above, where Koike further teaches the system comprising wherein the

second communication connection comprises an infrared communication connection

. (Koike, col. 6, II. 17-37).

15.   As per claim 32, AAPA, Kumar and Koike teach all the limitations of claim 17 as

discussed above, where Koike further teaches the computer-readable storage medium

comprising wherein the light-based secondary communication channel comprise an

infrared communication connection (Koike, col. 6, II. 17-37).

16.   Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in

view of Kumar et al. (US Patent 7,065,597) and Koike (US Patent 7,081,806) as applied

to claim 17 above, and further in view of Scott et al. (US Patent 5,311,596).

AAPA, Kumar and Koike teach all the limitations of claim 17 as discussed above,

but AAPA, Kumar and Koike do not teach the computer-readable storage medium

comprising wherein said sending act and said receiving act together comprises a

challenge-response protocol, and wherein the method further comprises: determining,

based on said sending act and said receiving act that the second component is

engaging in a live communication with the first component over said communication

channel and that the second component is not being emulated through a replay attack.

Scott teaches a system and a method comprising utilizing the challenge-

response protocol for communication between a terminal (Fig. 1, ref. 110) and a

computer (Fig. 1, ref. 150), wherein the authentication of the communication is

continuously re-affirmed, by continuous re-affirmation of identity, therefore ensuring the

authenticity of the communication, such that that there can no "spoofing" or active wire

taping within the communication (col. 1, I. 31 to col. 3, I. 16).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Scott's continuously re-affirmed into AAPA and Kumar's

computer-readable storage medium for the benefit of implementing a secure

communication link by implementing a continuous re-authentication procedure in a non-interfering matter by utilizing a side-channel (Scott, col. 2, ll. 41-42) to obtain the invention as specified in claim 23. The resulting combination of the references further teaches computer-readable medium comprising wherein the sending and the receiving of data together include the challenge-response protocol; and as the communication between the terminal and the computer is ensured to be continuously authenticated via continuously re-affirmation of identity, it would then be obvious that the live communication between the first component and the second component over the side band (e.g. communication channel) is not being emulated through a reply attack, as there can no "spoofing" or active wire taping within the communication.

II. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the

application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, applicant's amendment necessitated the new

ground(s) of rejection presented in this Office action. Accordingly, claims 1-3, 10-14,

16-20, 23 and 30-32 have received a final action on the merits. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 05, 2007

Chun-Kuan (Mike) Lee
Examiner
Art Unit 2181

ALFORD KINDRED
SUPERVISORY PATENT EXAMINER